

ABSTRACT OF THE DISCLOSURE

[00032] A semiconductor device includes a substrate layer having a first dopant density, an epitaxial layer comprising a second dopant density formed on the substrate layer and a semiconductor switch formed on the epitaxial layer, wherein the semiconductor switch comprises an active region of the semiconductor device. A first thickness of the epitaxial layer in the active region is less than a second thickness of the epitaxial layer in a termination region formed peripherally to the active region. The increased thickness of the epitaxial layer in the termination region enables the semiconductor device to have a relatively higher breakdown voltage without increasing the on-resistance of the semiconductor switch.